The Need for Geriatric Dental Education in Nigeria

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Abstract

Background: The elderly population of Nigeria has grown dramatically since the beginning of the twentieth century indicating the need for an increased geriatric care.

Objective: To evaluate the status and need for geriatric dental education in Nigeria.

Materials and Methods: A search of reports in libraries of Universities that offer Bachelor of Dental Surgery programme and websites of relevant educational agencies and institutions such as the Nigerian University Commission and the Medical and Dental Council of Nigeria on dental education in Nigeria focusing on geriatric dental education was undertaken.

Results: There are nine universities that offer Bachelor of Dental Surgery in Nigeria; eight are owned by the federal government and one owned by the state government. Of the nine Faculties of Dentistry, four were established over 40 years ago producing about 160 dental graduates every year. The other five Faculties of Dentistry were established about 15 years ago producing about 100 dental graduates every year. At postgraduate level, there are ten recognized specialties in Dentistry and approximately 12 accredited health institutions offer about 80 places for specialist training every year. The specialist training is regulated by both the National Postgraduate Medical College of Nigeria and West African College of Surgeons and a Fellowship is awarded by these colleges to about 15 specialists every year. There are only two universities that offer postgraduate academic Masters programmes comprising Masters in dental public health and Master in dental sciences. Only one dental school has an undergraduate curriculum that has geriatric dentistry. At postgraduate level, geriatric dentistry was not developed as a separate and independent specialty. Undergraduate dental education is monitored by both the Medical and Dental Council of Nigeria and the National University Commission.

Conclusion: It is recommended that geriatric dentistry should be included in the curriculum of undergraduate dental students and should be well structured in postgraduate specialists' curriculum. Postgraduate diploma and degree programmes in geriatric dentistry should be established to address the needs of the vast elderly population in Nigeria.

Keywords: Need; Geriatric; Education

Introduction

The population of elderly cohort is increasing due to improved life expectancy brought about by improved health conditions and more accessible health programmes[1]. This increase in elderly population has transformed the pyramid-shaped population into a column[2]. According to 2006 census, the population

aged 60 years and over in Nigeria was 6,987,047 million constituting about 5% of the total population[3] indicating the need for an increased geriatric care. The Federal Government of Nigeria has introduced some programmes to improve the health care of her citizens. The National Health Act was recently signed into law by the President of Nigeria with increased emphasis on improving the accessibility to health care facilities especially for rural dwellers. The law also highlights increased role of private sectors in health care delivery, supporting governmental and non-governmental associations to establish mobile health care units and improving health insurance for both organized and unorganized labour. In addition, the Federal Ministry of Health adopted the universal coverage for health as an approach to provide basic health care to the doorstep of every Nigerian. None of these focused on the health and well-being of elderly persons. The elders suffer because health care professionals lack the knowledge and skills required for the provision of adequate health care to this vulnerable group of the population. For example, studies show that many practising dentists feel that they are inadequately prepared to treat elderly people or they prefer not to treat them for other reasons such as lack of monetary compensations or lack of interest in treating a population with medical and other complications[4,5]. With the rapid increase in the population of elderly people, it is imperative that oral health care providers are well trained in managing this population[6]. There is a need to incorporate training on the management of elderly patients in the curricula of the dental schools[7].

In Nigeria, geriatric education has not received the needed attention as the delivery of health care. Geriatric medicine is in its early stage of development while geriatric dental education is non-existent. Recently, the University College Hospital, Ibadan became the first health institution in Nigeria to establish a geriatric center and some health practitioners from its Department of Family Medicine were sent to South Africa and the United Kingdom for training in Geriatric Medicine and nursing. This centre provides dental and medical care for elderly Nigerians.

The elderly population has been known to retain most of their teeth, presenting a challenge for oral self and professional care to maintain the dentition for a whole lifetime[8]. It is obvious that they need extensive and complicated treatment[9] to maintain the dentition. Over the next few decades, the rapid growth of this segment of the population will affect dental practice[10] and because of the variety of age related and age-associated psychological, social, biological and pathological changes that occur, clinical decision-making will vary from one individual to another[8]. It is important to maintain the dentition of this population, not only for their quality of life but also for the maintenance of general health[8].

The dental health needs of the elderly are changing and growing requiring an understanding of the medical and dental aspects of aging as well as factors such as independent wing, ambulation, socialization and sensory function[8]. Many barriers such as heightened dental complexity, multiple medical conditions, diminished functional state, loss of independence, unintentional attitudes about dental care in old age and limited finances may interfere with providing the elderly with dental care. These barriers can be overcome by educating oral health practitioners about geriatric oral health and exposing them to geriatric clinical programmes.

The aim of geriatric dental education in Nigeria will be to build and increase the capacity of oral health practitioners to diagnose and manage diseases of the elderly. For successful management of oral diseases in the elderly, dentists should adopt a humanitarian attitude and build a better relationship with the elderly. In addition, they should understand the feelings, attitudes and special dental problems of the elderly as well as consider them as different from other groups[11]. This paper will describe the current state of dental education and oral health of elderly people in Nigeria and barriers to geriatric dentistry and strategies to improve the situation and special considerations for dental care of the elderly with a view to making a case for geriatric dental education in Nigeria.

Current state of Dental education in Nigeria with a focus on geriatric dental education

After searching through reports and websites of the Nigerian University Commission, Medical and Dental Council of Nigeria, National Postgraduate Medical College of Nigeria, West African College of Surgeons and Teaching Hospitals, there were nine accredited dental schools in Nigeria at the time of writing this paper. Dental education is shaped and administered by both the Medical and Dental Council of Nigeria and the National University Commission. The first dental school in Nigeria was established in the University of Lagos in 1964[13]. This was followed by the establishment of dental schools in University of Ibadan and Obafemi Awolowo University, Ile-Ife in 1975, and University of Benin in 1976[14]. Five dental schools were later established in the University of Maiduguri in 2002, University of Nigeria Nsukka in 2004, University of Port Harcourt in 2005, Lagos

State University in 2010 and Bayero University, Kano in 2010[15]. The 9 dental schools in Nigeria comprise 7 and 2 in southern and northern parts of the country respectively. Four of the dental schools established over 40 years ago produce about 160 dental graduates every year while the other five dental schools established about 15 years ago graduate about 100 dental graduates every year. At postgraduate level, there are ten recognized specialties in Dentistry and approximately 14 health institutions offer about 80 places for specialist training every year. The specialist training is regulated by both the National Postgraduate Medical College of Nigeria and West African College of Surgeons and a Fellowship is awarded by these two Colleges every year. There are currently only two universities that offer postgraduate academic Masters programmes comprising Masters in dental public health and Master in dental sciences. After a thorough search of reports and websites for courses containing either a lecture-based or clinical geriatric component, only one dental school in Nigeria teaches at least some aspects of geriatric dentistry at undergraduate level and has a curriculum containing required didactic materials. No dental school has a clinical component of geriatric dental teaching but one dental school has a geriatric dental clinic outside the dental school. The only dental school that has undergraduate geriatric course did not list the number of courses in geriatric dentistry. No dental school offers continuing dental education in geriatric dentistry. At postgraduate level, geriatric dentistry is not developed as a separate and independent specialty though some aspects of geriatric dentistry are taught during update lectures organized by the two postgraduate medical colleges. The primary barriers to programme development are the lack of trained manpower and crowded curriculum.

Geriatric dental education is the part of the dental curriculum that deals with special knowledge, attitudes and technical skills required in the provision of oral health care to elderly people[16]. Geriatric dentistry or gerodontics is the delivery of dental care to older adults involving the diagnosis, prevention, and treatment of problems associated with normal ageing and age-related diseases as part of an inter-disciplinary team with other health care professionals[8]. In this paper, elderly people are those who are 60 years and above and geriatric dentistry as dental care delivered to this population. Geriatric patients require special care because they may have one or more chronic health conditions and/or may be taking multiple medications that need to be taken into consideration during treatment planning and delivery of care[17]. These medications and illnesses may also put them at greater risk for xerostomia which increases their risk for oral disease[18]. Physical disabilities may limit one's capacity to perform proper oral hygiene techniques; consequently elderly people may have a higher risk of developing caries, gingival infections and periodontal disease[17]. These oral diseases can cause or worsen major systemic conditions, such as heart disease, stroke, pneumonia, diabetes, and infective endocarditis. Advanced age combined with a history of smoking and/or drinking can also put this group at increased risk for developing oral cancer[18].

Comprehensive oral health care of elderly people requires knowledge of overlapping health and psychosocial concerns. Unfortunately, adequate oral health care could not be provided to elderly people by many dentists due to lack of adequate knowledge and clinical experience in managing this group of people[19]. A study by Ettinger[20] on meeting oral health needs to promote the well-being of the geriatric population found that the more limited the range of clinical experience with medically compromised patients, the more restricted was the dentist's ability to conceptualize appropriate treatment strategies for these patients. Studies have shown that clinical experience with elderly people through extramural clinical rotations is associated with more positive student attitudes towards this group[19,21]. Students who spend more time in extramural clinical settings report better experiences and are more likely to want to treat special care/medically compromised patients after dental school training[19,22]. Therefore, one important element of increasing the number of oral health care professionals providing care to the elderly people is providing students with hands-on experience both to improve confidence in their ability to provide care and to help them gain an appreciation for this population that although challenging to treat, needs and deserves their care[23]. Dental education provides significant opportunities for helping students develop an awareness of how patients' biopsychosocial concerns influence practice since dental providers as members of the interdisciplinary health care team share the responsibility to understand the patient as a person rather than a clinical entity[24]. There is a need to develop educational intervention that will prepare future dentists in Nigeria with increased knowledge of aging and skills to both assess and respond to elderly people's interrelated oral and systemic health and social concerns.

Current state of oral health of elderly Nigerians

The elderly population of Nigeria has grown dramatically since the start of the twentieth century[3].

In 2006, about 7 million individuals were aged 60 or over while it was about 5 million in year 2001[3]. It is estimated that there will be 47 million individuals aged 60 and over in Nigeria by the year 2060[3]. The critical question is how will the available health care system be available to provide adequate health for elderly population in Nigeria? Dental schools in Nigeria are mainly located in big urban cities making it difficult for the majority of elderly Nigerians who reside in rural areas to access oral health care. A recent study[25] on tooth loss among the elders in an inner city of Ibadan, Nigeria reported 47.7% and 5.9 as the mouth prevalence of tooth loss and mean (SD) number of missing teeth respectively. In this study, complications of missing teeth were associated with increasing number of missing teeth. A previous study on orofacial bacterial infections in elderly Nigerians reported a general delay before presenting for treatment (average 19.5 weeks) and mortality rate of 3.3%[26]. A Nigerian study on periodontal status and treatment needs of elderly Nigerians reported that 13% and 70% had dental caries and periodontal pockets respectively, none had restored or filled teeth[27]. Chronic periodontitis, pain, caries, attrition and squamous cell carcinoma were reported by 73.9%, 66.2%, 12.8%, 8.0% and 2.2% elderly Nigerians residing in Ile-Ife, a rural community in Nigeria[28]. Another study in Ile-Ife reported that 44.1% of elders had chewing problems[29] which might be due to toothache and mobile teeth. Good oral health is a critical factor in maintaining general health in elderly people[30]. Intermittent or inadequate dental care introduces additional treatment complexities such as increased risk for developing dental caries and periodontal diseases. The incidence and prevalence of tooth loss, root caries, periodontitis and oral carcinomas have been reported to be associated with increasing age[31]. Pathologies and chronic conditions such as xerostomia and atrophy of the mucosa that often accompany aging process affect oral health and systemic diseases and/or their treatments can have a negative effect on oral health[20]. These findings have also been in reported among elderly Nigerians[28,29].

Oral health of elderly Nigerians like other Nigerians is influenced by income and access to transportation. Most elderly Nigerians have no means of income and the retirees among them do not regularly receive their monthly pension, therefore, access to and utilization of oral care are negatively affected since they pay out of their pocket to transport themselves to health facilities where they also pay to receive treatment. Therefore, geriatric oral health should be promoted at multiple levels of the dental profession in Nigeria. Professional organisations such as the Nigerian Dental Association and the Medical and Dental Council of Nigeria should make recommendations for geriatric dentistry to be included in the dental school curricula. The inclusion of geriatric care in the dental curriculum has the potential to influence oral health providers' awareness of aging and willingness to include older people in their practice as well as how the public view oral health and aging[32]. The need for dental education with a greater emphasis on care for the elderly should receive attention in Nigeria. Training in geriatric dentistry would enable the dental surgeon to understand and empathise with the psychosocial behaviour of elderly, especially those suffering from depression and isolation or those with severe debilitating disorders such as stroke, Alzheimer's and Parkinson's diseases[33]. The dental graduate should be encouraged to treat elderly patients under supervision using multi-disciplinary approach.

Barriers to geriatric dentistry in Nigeria and strategies to improve the situation

Elderly patients are generally classified into 3 groups based on functionality living ability into functionally-independent, frail and functionally-dependent[34] and they are found in homes and institutions[35]. Globally, despite the normative and perceived needs for dental care by elderly individuals, the present scenario of geriatric dentistry is worrisome because of the low utilization of dental care by them[36]. Low utilization of dental care by elderly Nigerians could be due to:

a) Lack of experience and fear among dentists when treating geriatric oral health problems due to inadequate undergraduate training in geriatric dentistry.
b) Lack of transportation to the dental clinic especially among elders who do not have any source of income.
c) Improper design of dental clinics for easy access of elderly patients.
d) Lack of provision of oral care to elderly patients who are homebound or institutionalized.
e) Absence of extra financial incentives to dentists when they treat elderly patients.
f) Negative attitudes toward the elderly need for dental care and their low perception and motivation for oral health care.
g) Difficulties dealing with debilitating and life-threatening illnesses.
h) Inability of elderly patients to keep appointments.
i) Treatment plan not aimed at retaining the maximum number of natural teeth through preventive and curative procedures.

j) Oral health care delivery not delivered in a pain-free and comfortable manner.

To improve upon the low utilization of oral health care by elderly Nigerians, a number of strategies should be instituted. Firstly, the dental team should provide a professional service that is caring and sensitive to the needs of the elderly. The dental team should be cognizant of the life circumstances of these patients and tailor treatment plans accordingly[35]. This can be easily achieved if dental students are trained in geriatric dentistry. Students should be provided with hands-on experience, both to improve confidence in their ability to provide care and to help them gain an appreciation for this population that, though challenging to treat, needs and deserves their care. It is of utmost important for dentists to be well-trained, understanding and compassionate and to be aware of the special needs of the elderly population[35]. They should be able to track elderly patients once they are no longer able to visit the dental clinic. Care-givers, family members and other health care professionals should be educated on daily preventive dental care of elderly patients.

Dental facilities should be accessible to the elderly especially those on wheel chairs or those who use walkers. They should also be designed to support the independence of the elderly patients. Dental clinics should have adequate lighting to minimize any visual disorientation or mental confusion. Portable dental equipment can be used to service the functionally dependent elderly in a wheelchair at home or institution.

Adequate oral health education should be provided to elderly people via the radio, television, newsletters, seniors' magazines and newspapers. In addition, oral health talks should be given to group of elders in their meeting places to demonstrate a willingness and ability to treat medically compromised elderly patients.

Oral health care professionals should engage the government in providing the enabling environment for the establishment of both undergraduate and postgraduate programmes in geriatric dentistry. Collaborative efforts between all stakeholders would help to improve oral health status of elderly Nigerians via improve access to oral health care.

Special consideration of dental care for elderly patients

The elderly patients need special considerations for dental treatment because of the following:

a) Presence of one or more chronic health conditions and/or may be taking multiple medications that need to be taken into consideration during treatment planning and delivery of care[17]. These medications and illnesses may also put them at greater risk for xerostomia which then increases their risk for oral disease[18]. Xerostomia would affect their ability to speak and chew and would increase the rate of caries, periodontal disease, traumatic ulcers, fungal infections and reduction in denture retention in the edentulous patients[37].

b) Physical disabilities may limit elderly people's capacity to perform proper oral hygiene techniques resulting in higher risk of developing caries and periodontal diseases. These oral diseases can cause or worsen major systemic diseases such heart disease, stroke, pneumonia, diabetes and infective endocarditis.

c) History of smoking and/or alcohol consumption combined with advancing age can increase the risk of elderly people in developing oral cancer[18].

d) Elderly individuals are usually on heavier regimens of drug therapy for various ailments so it is important that they visit a dentist who is familiar with their drug needs since drugs are metabolized differently than when they are younger[8]. Therefore, dentists have to take into consideration the drug regimen that elderly patients are on and plan their use of prescription and follow up care accordingly[38].

e) Oral infections have a significant impact on morbidity and mortality of medically compromised patients especially elderly patients. Elimination of oral infections before initiating radiation therapy, chemotherapy or various cardiac conditions is the standard of care in most medical institutions and needs to be practices in all dental institutions[39].

f) Regulatory compliance has to be maintained especially with regard to catheters, contractures, pressure sores and psychotropic restraints[8].

Conclusion

In Nigeria, the elderly population is growing rapidly and dentists are not adequately prepared to treat this group of people due to lack of exposure to geriatric dentistry. It is recommended that geriatric dentistry should be included in the pre-clinical and clinical curricula of undergraduate dental students and should be well structured in postgraduate specialists' curriculum. Postgraduate diploma and degree programmes in geriatric dentistry should be established to address the needs of the vast elderly population in Nigeria.

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